Work Order ID 89976

September-13-12 8:58:10 AM

89976

Item ID: D2891-1

Accept *N900040100*

Setup **Start** *NS1*

Stop *NS2*

Revision ID:

Item Name: 2.25 Support

Start Date: 9/21/12 **Start Qty:** 5.00 *5*

Required Date: 10/12/12 **Req'd Qty:** 5.00 *5*

Cust Item ID:

Customer:

Reference:

Run **Start** *NR1*

Stop *NR2*

Approvals: **Process Plan:** MLJ **Date:** 12-09-13 **Tooling:** ______ **Date:** ______

QC: ______ **Date:** ______ **SPC (Y/N):** ______ **Date:** ______

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr D2891	**Revision Nbr** B								
100 *100* HAAS 1 HAAS CNC vertical machine #1	HAAS CNC VERTICAL MACHINING #1 **Memo** 1-Machine as per Folio FA046 2-Deburr	0.00 / 0.00	JY 12-9-23			1	4		
110 *110* QC Quality Control	QC2- Inspect parts off machine FAI/FAIB **Memo**	0.00 / 0.00	JY 12-9-23			1	4		
120 *120* QC Quality Control	QC8- Inspect parts - second check **Memo**	0.00 / 0.00	JL 12-9-24						

DQA: ________ Date: ____________

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: ____________	DISPOSITION	AGAINST DEPARTMENT/PROCESS
Part No. ____________	Rework ☐	Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
NCR No. ____________	Scrap ☐	Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
	Use-as-is ☐	Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
	Work Order Update ☐	Large Fab ☐ Composite ☐ Supplier ☐ ☐

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data ☐									
Equip/Tooling ☐									
Operator ☐									
Material ☐									
Setup ☐									
Other ☐									
Process ☐									
Supplier ☐									
Training ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear	General			
☐ Bending	☐ Bend	☐ Grain	☐ Ovalized	☐ Pressure/Forced
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware	☐ Over/Under tolerance	☐ Temperature/Cure
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete	☐ Part Incorrect	☐ Weld
☐ Crushed/Crimped.	☐ Burrs	☐ Instructions Incomplete/Unclear	☐ Part Lost/Missing	☐ Wrong Stock Pulled
☐ Cuffs	☐ Contamination	☐ Maintenance	☐ Part Moved	
☐ Heat Treat	☐ Countersink	☐ Mislabeled	☐ Positioned Wrong	
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread	☐ Power Loss/Surge	☐ Other
☐ Ripples in Bend	☐ Drill Holes	☐ Offset	____________	
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration	____________	
☐ Turning Sequence	☐ Finish	☐ Out of Sequence	____________	
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions		

655
550

Work Order ID 89976

September-13-12 8:58:10 AM

89976

Item ID:	D2891-1	**Accept**	*N900040100*
Revision ID:		**Setup Start**	*NS1*
Item Name:	2.25 Support	**Stop**	*NS2*

Start Date: 9/21/12 **Start Qty:** 5.00 *5*

Required Date: 10/12/12 **Req'd Qty:** 5.00 *5*

Reference:

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** ______ **Date:** ______ **Tooling:** ______ **Date:** ______

QC: ______ **Date:** ______ **SPC (Y/N):** ______ **Date:** ______

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* HandFXtube Hand Finishing Crosstubes	Memo: Per note 8 on page 1 of dwg D2891, Prep inner concave surface of support and apply 3M Scotch-Weld as per dwg. 24H of cure time.	0.00 / 0.00				AB	12-	9 -24	6
140 *140* QC Quality Control	QC3- Inspect Part Finish; Memo	0.00 / 0.00				6			W 12·09·25
170 *170* Packaging Packaging	Identify as per dwg & Stock Location: LG 52; Memo	0.00 / 0.00				6	Ø	Ø	AB 12-11-5

DQA: ________ Date: ____________

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

	DISPOSITION	AGAINST DEPARTMENT/PROCESS			
Work Order: ____________	Rework ☐	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
Part No. ____________	Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐
NCR No. ____________	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
	Work Order Update ☐	Large Fab ☐	Composite ☐	Supplier ☐	☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear	General			
☐ Bending	☐ Bend	☐ Grain	☐ Ovalized	☐ Pressure/Forced
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware	☐ Over/Under tolerance	☐ Temperature/Cure
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete	☐ Part Incorrect	☐ Weld
☐ Crushed/Crimped.	☐ Burrs	☐ Instructions Incomplete/Unclear	☐ Part Lost/Missing	☐ Wrong Stock Pulled
☐ Cuffs	☐ Contamination	☐ Maintenance	☐ Part Moved	
☐ Heat Treat	☐ Countersink	☐ Mislabeled	☐ Positioned Wrong	
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread	☐ Power Loss/Surge	☐ Other
☐ Ripples in Bend	☐ Drill Holes	☐ Offset		
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration		
☐ Turning Sequence	☐ Finish	☐ Out of Sequence		
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions		

Work Order ID 89976

September-13-12 8:58:10 AM

89976

Item ID: D2891-1

Revision ID:

Item Name: 2.25 Support

Accept *N900040100*

Setup **Start** *NS1*

Stop *NS2*

Start Date: 9/21/12 **Start Qty:** 5.00 *5*

Required Date: 10/12/12 **Req'd Qty:** 5.00 *5*

Reference:

Cust Item ID:

Customer:

Run **Start** *NR1*

Stop *NR2*

Approvals: **Process Plan:** ________ **Date:** ________ **Tooling:** ________ **Date:** ________

QC: ________ **Date:** ________ **SPC (Y/N):** ________ **Date:** ________

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180 *180*	QC21- Final Inspection - Work Order Release	0.00					12/11/6		
QC Quality Control	Memo	0.00							

MLJ 12-11-05

DQA: ________ Date: ____________

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: ____________________

Part No. ____________________

NCR No. ____________________

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
Machining ☐	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
Large Fab ☐	Composite ☐	Supplier ☐	☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear	General			
☐ Bending	☐ Bend	☐ Grain	☐ Ovalized	☐ Pressure/Forced
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware	☐ Over/Under tolerance	☐ Temperature/Cure
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☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear	☐ Part Lost/Missing	☐ Wrong Stock Pulled
☐ Cuffs	☐ Contamination	☐ Maintenance	☐ Part Moved	
☐ Heat Treat	☐ Countersink	☐ Mislabeled	☐ Positioned Wrong	
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread	☐ Power Loss/Surge	☐ Other ____
☐ Ripples in Bend	☐ Drill Holes	☐ Offset	____	
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration	____	
☐ Turning Sequence	☐ Finish	☐ Out of Sequence	____	
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions		

Picklist Print

September-13-12 8:58:10 AM

Work Order ID: 89976

Parent Item: D2891-1 | **Start Date:** 9/21/12 | **Required Date:** 10/12/12

Parent Item Name: 2.25 Support | **Start Qty:** 5.00 | **Required Qty:** 5.00

Comments: IPP C02.11.26Added P/OKJ
IPP D 08.03.19 Re-format EC verified: DD IPP Rev:E 11.08.04 as per dwg
rev.B DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
DSK076 D2891-1 TURNING DETAIL		Manufactured	No			110	Each	13.0000	**0.5**	**2.5**			

JL 12.9.23

Location	Loc Qty	Loc Code	
MAT	-10		
MAT050	10		
MAT060	13		
77192 ✓	3		3
84525	10		

DQA: ________ Date: ____________

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: ____________	DISPOSITION	AGAINST DEPARTMENT/PROCESS			
Part No. ____________	Rework ☐	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
NCR No. ____________	Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐
	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
	Work Order Update ☐	Large Fab ☐	Composite ☐	Supplier ☐	☐

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data ☐									
Equip/Tooling ☐									
Operator ☐									
Material ☐									
Setup ☐									
Other ☐									
Process ☐									
Supplier ☐									
Training ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear	General			
☐ Bending	☐ Bend	☐ Grain	☐ Ovalized	☐ Pressure/Forced
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware	☐ Over/Under tolerance	☐ Temperature/Cure
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete	☐ Part Incorrect	☐ Weld
☐ Crushed/Crimped.	☐ Burrs	☐ Instructions Incomplete/Unclear	☐ Part Lost/Missing	☐ Wrong Stock Pulled
☐ Cuffs	☐ Contamination	☐ Maintenance	☐ Part Moved	
☐ Heat Treat	☐ Countersink	☐ Mislabeled	☐ Positioned Wrong	
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread	☐ Power Loss/Surge	☐ Other
☐ Ripples in Bend	☐ Drill Holes	☐ Offset	____________	
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration	____________	
☐ Turning Sequence	☐ Finish	☐ Out of Sequence	____________	
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions		

DART AEROSPACE LTD	Work Order:	89976
Description: Ø2.250 Support	Part Number:	D2891-1
Inspection Dwg: D2891 Rev: ~~A~~ B		Page 1 of 1

AF8 12/09/13

FIRST ARTICLE INSPECTION DIMENSION SHEET

[X] First Article [ ] Prototype

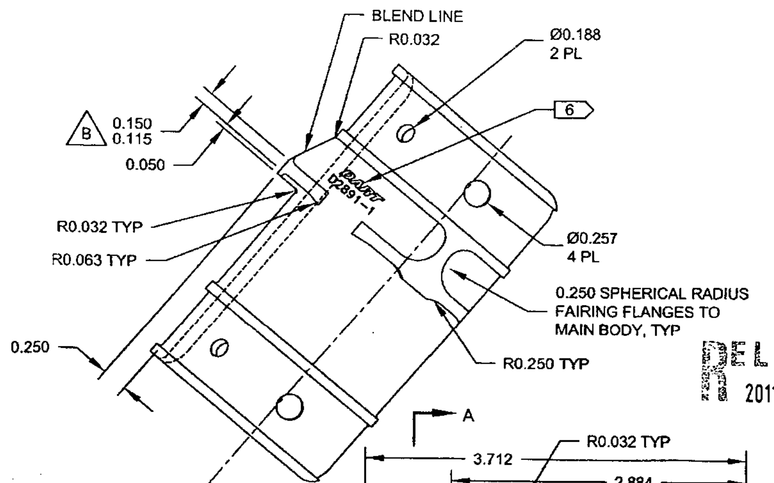
Dim	Min	Max	Go/No Go Gauge	Record Actual Dimensions 1	2	3	4	5	6
HAAS Section									
AA	0.188	0.193		.188	.188	.188	.188	.188	.188
AB	0.240	0.260		.250	.250	.250	.250	.250	.250
AC	0.115	0.150		.128	.128	.128	.128	.128	.128
AD	0.040	0.060		.052	.052	.053	.053	.053	.053
AE	0.010	0.020		.010	.010	.010	.010	.010	.010
AF	0.240	0.260		.250	.250	.250	.250	.250	.250
AG	0.290	0.310		.300	.300	.300	.300	.300	.300
AH	0.115	0.150		.140	.140	.140	.143	.140	.140
AI	0.454	0.474		.468	.468	.470	.470	.470	.470
AJ	2.779	2.789		2.783	2.783	2.783	2.783	2.783	2.783
AK	0.240	0.260		.250	.250	.250	.250	.250	.250
AL	1.002	1.042		1.040	1.040	1.033	1.036	1.037	1.040
AM	0.053	0.073		.060	.060	.060	.060	.060	.060
AN	0.257	0.262		.260	.260	.260	.260	.260	.260
AO	1.663	1.683		1.675	1.675	1.675	1.675	1.675	1.677
AP	0.053	0.073		.063	.063	.063	.063	.063	.063
AQ	0.022	0.042		.032	.032	.032	.032	.032	.032
AR									
AS									
AT									
			Accept/Reject						

Measured by:	RP	Date:	12-9-23
Audited by:	JL	Date:	12-9-24
Prototype Approval:		Date:	

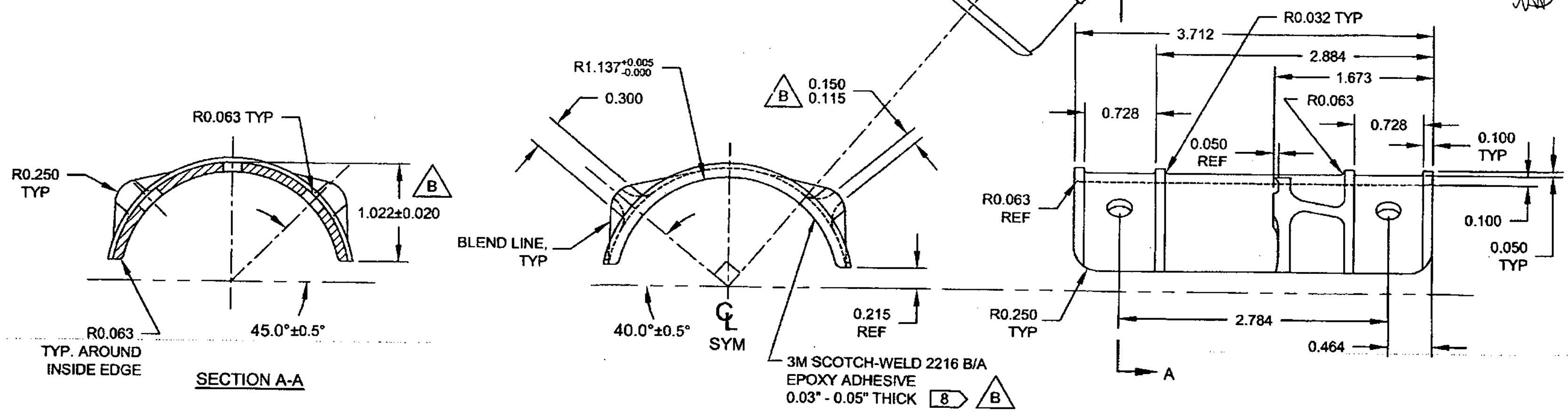
Rev	Date	Change	Revised by	Approved
A	02.12.12	New Issue	KJ/RF	
B	08.04.21	Reformat	KJ/JLM	[signature]

NOTES:

1) MATERIAL: 17-4 PH STAINLESS STEEL, H900 OR H925 CONDITION (B)
   MIN UTS = 170 KSI (38 HRc)
   (REF DART SPEC. D6104)
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 (REF X.XXX = ±0.010) UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: DART LOGO (PER DART SUPPLIED GRAPHIC) AND PART NUMBER IN THIS AREA WITH 0.125 HIGH LETTERING 0.010-0.020 DEEP, PER DART QSI 044 6.3.
7) WEIGHT: 0.38 lb
8) (B) FOR THE ENTIRE INNER CONCAVE SURFACE:
   ABRADE SURFACE WITH 400-GRIT SANDPAPER. REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY 0.03" TO 0.05" THICK LAYER OF 3M SCOTCH-WELD 2216 B/A ADHESIVE TO MATING SURFACE OF SUPPORT. ALLOW TO CURE FOR 24 HOURS.



RELEASED 2011-07-28



D2891-1 SUPPORT

REV.	DESCRIPTION	BY	DATE
B	RMV FINISH, ADD 3M 2216, ADD H925 MAT'L OPTION, UPDATE TOLERANCE (ZN D4-1,B4-1,B6-1)	CP	11.07.15
A	NEW ISSUE	CP	00.11.17

DESIGN	QQ	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	QQ	
CHECKED	ASS	DRAWING NO. D2891 — REV. B — SHEET 1 OF 1
MFG. APPR.	[signature]	
APPROVED	[signature]	TITLE Ø2.250 SUPPORT — SCALE NTS
DE APPR.	[signature]	
DATE	11.07.15	